

**Abstract**

The invention is found in a system comprising switches and cross-connects for optical networks where the shelves and ports of the various units are connected to a central cross-connect system.

These connections are assigned unique fibres on the basis of a single colour per fibre, which is

5 directly connected to a particular incoming or outgoing colour on a customer or network fibre.

The connections are usually provided as a 'transparent' facility, and the optical bandwidth is in some cases fully used by the data and protocols being carried on a fibre. These facts mean that it

is impractical to add any further data to that channel for use in verification of a connection. A

separate path for the transmission of provisioning data to an Operation, Administration,

10 Maintenance, and Provisioning subsystem is included within the prefabricated cables used to

interconnect the various system modules,. This is referred to as the provisioning data path. When

a prefabricated cable is placed in the system during the provisioning process, the physical

location of both ends of the cable is detected automatically and the information transmitted to

the OAM&P subsystem over the provisioning data path to be validated and recorded as

15 necessary. Thus, errors can quickly be identified, and corrections made. Later the same path may

be used to transmit data regarding the logical provisioning of the connection, further ensuring

the correctness of both the physical and logical connections.